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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/632,321	08/01/2003	Joseph C. Sanda JR.	MIC-103 (P50-0082)	5222
27215	7590	07/07/2006	EXAMINER	
MICHELIN NORTH AMERICA, INC. 515 MICHELIN ROAD P.O. BOX 2026 GREENVILLE, SC 29602			POULOS, SANDRA K	
			ART UNIT	PAPER NUMBER
			1714	

DATE MAILED: 07/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/632,321	Applicant(s) SANDA, JOSEPH C.	
	Examiner Sandra K. Poulos	Art Unit 1714	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 October 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 August 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input checked="" type="checkbox"/> Other: <u>Renumbered Claims</u> |

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: There is reference to "figure 1" in the specification, however, the drawing is not labeled "figure 1" as such. Applicant may either label the drawing "figure 1" or correct the specification by referring to "the figure" instead of "figure 1". Appropriate correction is required.

Claim Objections

2. Claims 1 and 6 are objected to because of the following informalities: Claims 1 and 6 recite improper Markush groups. "Selected from" should be correct to "selected from the group consisting of". Claim 1 also recites ".degree. F"; please correct to "degrees F" (without periods) which is the format used for the other claims. Appropriate correction is required.

3. The numbering of claims is not in accordance with 37 CFR 1.126 which requires the original numbering of the claims to be preserved throughout the prosecution. When claims are canceled, the remaining claims must not be renumbered. When new claims are presented, they must be numbered consecutively beginning with the number next following the highest numbered claims previously presented (whether entered or not).

Misnumbered claims 12 and 13 have been renumbered 11 and 12. Henceforth the renumbered claims are used.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Art Unit: 1714

4. Claims 1-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1, 7-10 are indefinite because it is unclear what range is meant by "from more than 50% to 10%" or "from less than 50% to 90%". It is assumed that it is meant to be "from less than 50% to 10%" or "from more than 50% to 90%".

Claims 1, 3, 4, 7, 8 are indefinite because of the relative terms "high" and "low" molecular weight wherein it is unclear what molecular weight ranges each encompasses.

Claim 4 is indefinite because it is not known how much "a small amount" would be.

The remaining claims are rejected under 35 U.S.C. 112, second paragraph, as being dependent upon a rejected base claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 102844 in view of Farber et al (US 4,064,922).

EP844 discloses a tubeless pneumatic tire with a puncture sealing laminate (pg 3, lines 1-4). Butyl rubber in 100 parts, 30-100 parts fluid polyisobutylene, and 2-10 parts tackifiers are present in the laminate (pg 6, lines 9-19; pg 7 line 5 to pg 8 line 16). There is 0.5-2 parts of

Art Unit: 1714

sulfur containing curatives (pg 8, lines 6-10). The butyl rubber has a Mooney viscosity of about 15 to 30 (pg 7, lines 19-22). EP844 is silent with respect to fiber, thus it is considered that the composition is fiber free. EP844 does not disclose ground rubber, however, since the current claims recite "up to 5 percent", which includes zero percent, EP844 meets this limitation.

EP844 does not disclose the currently claimed viscosities with respect to the blend and the Brookfield viscosity, that the butyl rubber is high molecular weight, the gel content, or a heat depolymerized natural rubber.

Farber discloses a puncture sealing composition for a tubeless pneumatic tire comprising a fiber free blend of a low molecular weight liquid elastomer and a high molecular weight elastomer wherein the Brookfield viscosity of the liquid rubber is 20,000 to 2,000,000 cps and the Mooney viscosity of the blend is 30-55 and wherein the gel content is 15-60% (col 13-14). The liquid elastomer is heat depolymerized natural rubber, liquid polybutadiene, liquid polybutene, and liquid butyl rubber (col 3, lines 46-55). Among the high molecular weight polymers are butyl rubber (copolymer of isobutylene and minor amounts of isoprene) (col 3, lines 16-45; col 13, lines 51-59). Farber discloses curatives such as tetrahydrocarbyl titanate esters in addition to sulfur curing agents (col 4 line 48 to col 5 line 50).

It would have been obvious to one of ordinary skill in the art to use a high molecular weight butyl rubber and heat depolymerized liquid natural rubber in the EP844 sealing composition because the combination of polymers have efficient sealing ability when used for a puncture sealing composition (col 3, lines 55-62). The gel content when the depolymerized rubber is used would be between 15 to 60%, which gives desirable sealing ability and lack of flow properties and thus would be obvious to use a gel content between those ranges (col 5, lines 35-50) and to use the titanate curative for optimal gel content (col 5, lines 7-50). Furthermore, it would be obvious to have a viscosity between 30 and 55 because under 30 the composition

Art Unit: 1714

flows out of the hole and over 55 and the composition is unusable for practical purposes (col 4, lines 33-40).

6. Claims 1-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 102844 in view of Farber et al (US 4,064,922) and further in view of Wong (US 5,856,376).

The discussion with respect to EP844 and Farber in paragraph 5 above is incorporated herein by reference.

EP844 and Farber do not disclose the use of ground rubber in the puncture sealant composition.

Wong discloses a tire puncture sealant containing a mixture of differently sized ground rubbers including 0.5% of 40 mesh ground rubber (abstract; col 3, lines 33-40). The rubber is post-consumer tire material which has been ground up (col 3, lines 1-5).

It would have been obvious to one of ordinary skill in the art to incorporate the ground rubber into the composition of EP844/Farber because the mixture of ground rubbers facilitates sealing different sized punctures in tires which would be a benefit to the puncture sealing composition disclosed in EP844/Farber.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US 3,981,342; 4,445,562; 5,085,942; 5,232,987; 5,295,525; 6,303,694; 2006/0005909; and JP 58037035 all disclose a sealant for a tire comprising high molecular weight and low molecular weight elastomers.

Art Unit: 1714


8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sandra K. Poulos whose telephone number is (571) 272-6428. The examiner can normally be reached on M-F 7:30-4:30 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on (571) 272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Sandra K. Poulos



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